

# KD Construction Company: Bidding and Cost Estimation

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## Abstract

*KD Construction is a new company in the construction industry, it was opened by Mr. Irfan and Mr. Kamran on February 6, 2013. The company constructs houses for individuals and for builders, commercial shopping malls and also works as a subcontractor for big construction companies like Habib, Paragon and AMCE Private Limited. KD worked on only small projects till now, but on January 17, 2018 Mr. Irfan received a call from a builder to work with him on a new project. This will be the first time that they got a contract from a big builder and they were asked to build houses for four variants of areas (in square yards 150, 250, 300 and 600) on which they had to work. They gave their final price of 107 crores and 50 lacs for the whole project, but they heard from the market that other construction companies were also trying for this project but the builder preferred them for this project. Mr. Irfan and Mr. Kamran have to estimate costs for the overall project whether to accept the project or not, to analyze whether the offered price was suitable or not and if they had estimated cost of total project they can negotiate on final price if the price is not suitable. As KD is in existence for five years, KD's employees are well aware of the prices and conditions of the country moreover, country's economic conditions can fluctuate any time due to political instability. With the experience of five years, KD construction wanted to estimate a budget for the whole project of 20<sup>†</sup> acres on which they have to construct 75% houses and 25% of amenities (Mosque, Road, Park, School, Hospital) (See Exhibit 1) in one year.*

**Keywords:** *Construction, bidding and cost estimation, commercial shopping malls*

## INTRODUCTION

KD Construction is technically sound in its operation and it is developing day by day in its infrastructure, slowly and gradually company got a good reputation in Pakistan because of its quality work and consultancy. KD construction have their own Architects, engineers, technical supervisors and before starting a project makes whole road map, not like other contractors who

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† Acre= 4840 yards, 1 yard=9sq ft

start work without any planning and improper estimation of cost, but KD Construction start work with predefined cost (Munir, 2017). It can be in Marla, Square Yards or in Square feet. KD Construction gives four kinds of services to its clients under one roof, 1) Architecture and design, 2) Construction, 3) Maintenance, and 4) Real Estate.

## **SERVICES**

### *Architecture and Design*

KD use their special construction knowledge and 3D graphics software to design buildings that are functional, safe and pleasing; experts involve throughout the construction process of buildings to see that the work is done on time and meets environmental factors, customer needs and their plans according to budget constraints.

### *Construction*

This is the most important for company because the major earning comes from construction of buildings, here KD Construction gives two kinds of construction services grey construction in which KD Construction constructs a house from scratch and another is finishing in which KD Construction works on the decoration of buildings like, paints, doors fitting and electric appliances etc. But sometimes clients prefer themselves to handle finishing work.

### *Maintenance*

KD Construction also provides the services to maintain ambience of the house as periodic maintenance is required we provide customized repair and maintenance to the building, by providing durable and reliable services to customers. Through this KD Construction maintains long lasting relations with clients by providing quality work and services.

### *Real Estate*

KD Construction also provides real estate services to the buyer and seller, to provide services to find ideal house, Land and commercial property. As it is working in construction industry since 2013, KD Construction's vast network and good knowledge can satisfy the needs of customers.

## **CONSTRUCTION INDUSTRY IN PAKISTAN**

The construction industry is an important sector of Pakistan's economy and has direct or indirect associations with other sectors. The contribution of construction industry to economic development as well as employment is significant. Nevertheless, some of the common issues create hindrance to the construction industry within developing countries, particularly Pakistan. However, the developing country Pakistan is currently enjoying strong growth in construction industry, as construction industry is considered as the second largest jobs provider sector after agriculture. About 30-35% of employment is directly or indirectly related with Construction industry and it is suggested in different studies that more than 60 other industries form linkages with construction and housing industry.

From independence, 1947, to 1971, there were a few private constructors in Pakistan. Central and provincial works departments were supposed to do the housing for public sector

through contractors. On the other hand, the entrepreneurs constructed their residences with unqualified but skilled workers. After the period of 1971, Karachi Development Authority (KDA) made land available in the city of Karachi. Similarly, the Government of Pakistan made larger allocations to House Building Finance Corporation (HBFC). Consequently, a large number of entrepreneurs, businessmen, industrialists, importers, consultants, and so on entered into the construction industry. Today, this industry shows positive signs despite the challenges and risks as estimated show that this industry has a healthy growth of 11.8% annually from 2016-20 and 9.1% from 2020-25. With the boost builders and developers gathered to form an association known as “Association of Builders and Developers” (ABAD). With the objective of improving the state of the industry as well as provide a platform to showcase and address pertinent issues.

In Pakistan since the last few years construction industry is on peak and people also find the best option for their house, but still they prefer to go to unprofessional contractors to save their cost without any road map and clients without proper knowledge of cost start their work and face issues and those unprofessionals cater about 70% of market, and the remaining is catered by big construction companies which are very well known to Pakistani market like Habib Construction Company, Izhar Construction, Habib Rafiq (Pvt) Limited, Paragon Construction (Pvt) limited, AMCE (Pvt) Limited, SPARCO Construction Company, these are few names who capture the professional construction industry and competition is high among these names who took huge projects like amusement parks, Mills, Hotels and projects like Bahria Town., Then come newly entered small companies which start business from an individual’s house to gain brand name and market share to remain in the market it is necessary for small companies to gain strong project to make a brand name in the market, because of lack of finance and new name in industry no one is interested to invest in the small company, the only chance to expand those companies is to gain a big project and for those some financial backup.

## **GREY STRUCTURE PROCESS**

To construct a house is not a simple task, normally a single house takes about 150 days to complete a grey structure which has different phases (See Exhibit 2)., Each phase requires specific time but sometimes it can vary, depending on demand of customer and design of house or plaza and also because of the size of project because, at a time, all houses cannot be done due to skilled workers and amenities take more time because they are a major part for any colony to become a center of attraction but it is necessary to follow each step for a quality work (Team Overcs, 2018).

## **CHALLENGES**

The major challenge in construction industry is availability of material because of unfavorable conditions of country sometimes companies can’t get material on time and because of that companies’ labor have idle time and work stops which can increase cost for company, incomplete approval of documents. Moreover governing body sometimes creates hindrances in the industry because of excessive approval procedures in administrative government departments or inadequate or insufficient site information (soil test and survey report), company position

matters a lot because if you get a good project in the past they will help you to get more projects as compared to previous one. Financial sound background played important role, they can easily make arrangements or they can purchase enough material to deal with delays and to save their extra cost, but small companies have disadvantage at this phase, and political instability of Pakistan also affects too much different industrial sectors and because of political instability there is a risk of inflation and in coming year might affect construction industry badly. There are few construction items (see Exhibit 3) on which prices can hike at the minimum rate of 7% and maximum rate can go up to 11% in coming quarters. There are other challenges which companies have to face like inadequate cost estimation and program scheduling (Munir, 2017).

## **FINANCIAL DETAILS**

At this stage the big project for the KD Construction required the amount of Rs.30 crores to start the project. According to business nature the major expenses to start the project would be material purchase, architecture cost and for workers' wages. Architecture cost would cost about Rs.5 crores, to purchase the material in bulk quantity which may cost about Rs.10-15 crores. Currently KD Construction already have some machinery but required some additional machinery to match with project almost Rs.3 crores and they have available machinery which cost Rs. 2 crores, both have estimate life of 10 years and old machinery was purchased in 2015 and some other costs, salaries and other routine costs are estimated (see Exhibit 4).

To handle the project required the following additional employees at the site: one general manager, three office assistants, six supervisors who overlook the project process and update about the project to company, eight guards, and four peons for their salaries (see Exhibit 4). Currently KD Construction has an amount of Rs.9 crores in their company account and other than this they may need to take a loan from local bank on an interest rate of 12% as previously they took for other projects, and local investors are also ready to invest about Rs.6 crores on interest rate of 13.5% on annual basis, but allocation of loan takes about one month, till then own capital can help to start the project.

## **DILEMMA**

KD Construction owners Mr. Irfan and Mr. Kamran received a call from a reputed builder (Afzal Heights) to work on a new project near Sukkur on a land of 20 acres to construct premium houses, this is first big project for the KD Construction to build the houses of four variants 150, 250, 300 and 600 square yards and 25% of area is for amenities like Mosque, Hospital, Park, Roads and Schools in one year, and asked the total cost for the project till January 21. Now Mr. Irfan and Mr. Kamran have to make a budget, whether they should accept the project or not, because K.D Company also has offers from the top contractors to work as a subcontractor under their management where KD will not have any participation in management. KD has offers from Habib Construction Company to build 30 houses in their project and from Paragon they have an offer to build 50 houses and others also from where they can earn margin of 30% because in those projects KD is not going to face any extra salaries and no need to purchase extra machinery or borrow loan (Team Overcs, 2018).

According to market analysis and customer needs the total cost for the house for 150 sq. yards is about 18-20 lakhs, 250 sq. yards 30 lakhs, 300 sq. yards 40-45 lakhs, and 600 sq. yards

takes cost about 65-68 lakhs. Now Mr. Irfan and Mr. Kamran have to jot down all the required items cost (See Exhibit 5) and for salaries (See Exhibit 4) and develop a budget for each house area and amenities, according to the requirements of builder he wants to build (see Exhibit 1). If KD Construction gets a good opportunity in the shape of this project to put their name in the large industry roadmap but there are certain concerns related to the project they have to overlook, Mr. Irfan and Mr. Kamran need to think do we have a sufficient funds, or we should demand an advance or go for loan? Will it be feasible to accept the project? Because of this project K.D might need to compete with giants and lose all contracts in future, do we need to make a contract with a single supplier for one year or with more than one, because in Pakistan target deadline is a big concern for every builder?

## **QUESTIONS**

- 1 Estimate the number of houses and area for amenities from given percentages?
- 2 Estimate all costs involved in the whole project?
- 3 Generate an optimistic, more likely and pessimistic scenarios on components in which prices can lift up and give analysis as per your calculation?
- 4 What is the breakeven point for this project?
- 5 According to your calculation what bid price we should ask from builder, or suggest a suitable price for project considering all restrictions?
- 6 Is this a right decision to leave giants (big companies) and start your own and how KD will face competition from those giants?

## **MATERIALS USED FOR ROAD CONSTRUCTION**

- Bricks
- Plumbing
- Brick tile
- AC pipe
- Mud
- Boring
- Anti-termite
- Architecture cost

## **MATERIALS AND LABORS NOT USED IN PARK**

- Polythene sheet
- Mud
- Chips aggregate
- Anti-termite
- Steel fixer
- Bitumen is only used in roads



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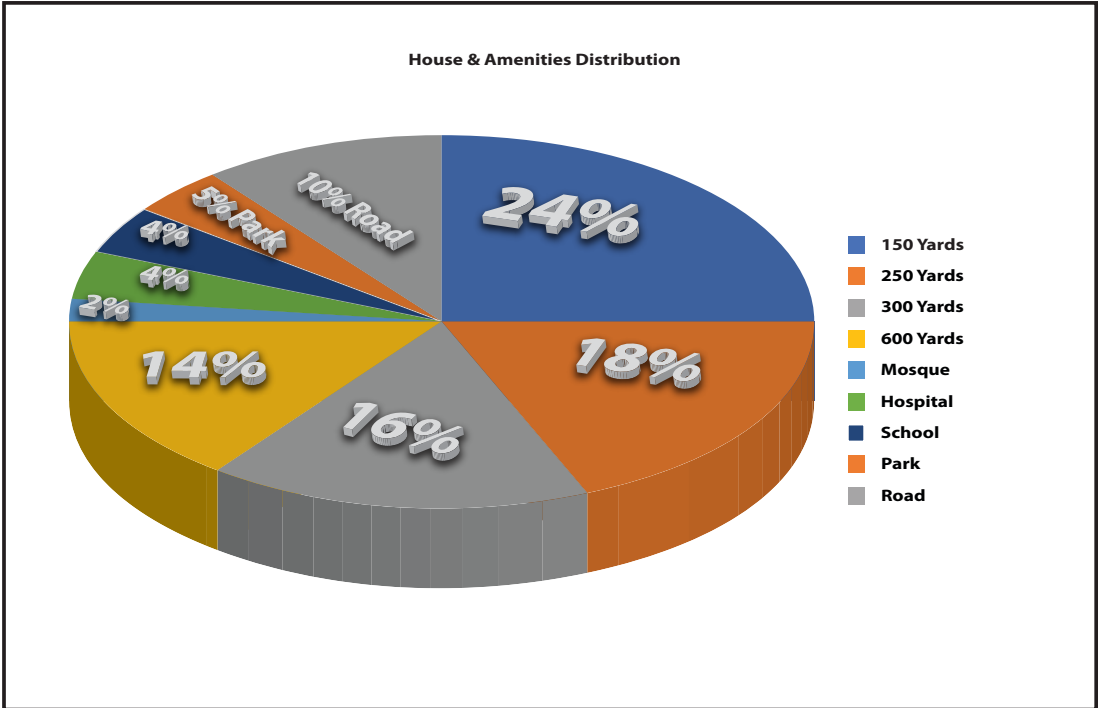
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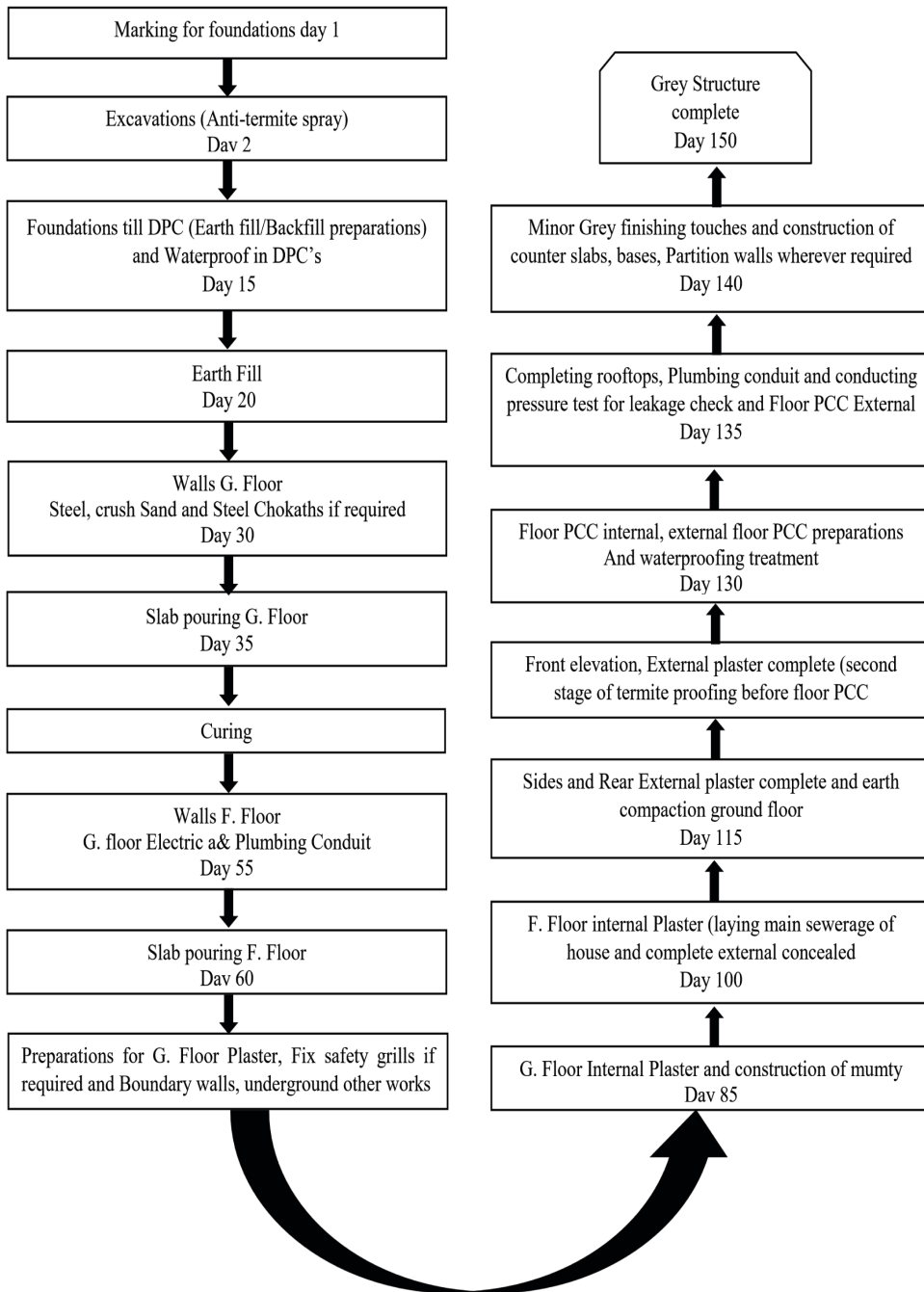
## APPENDIX

*Exhibit 1: Map Displaying Mosque, Road, Park, School, Hospital*



Exhibit 2: Grey construction process







**Exhibit 3: Components with Price Hike**

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<i>Price Hike 7%-11%</i>
<i>Crush</i>
<i>Cement</i>
<i>Steel Iron</i>
<i>Electric Items</i>
<i>Plumbing Items</i>
<i>Ac pipe</i>
<i>Polythene sheet</i>
<i>Anti-Termite</i>
<i>Bitumen</i>

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**Exhibit 4: Expenses per Month in Pakistani Rupees**

<b>Particulars</b>	<b>Monthly</b>
<i>General Manager</i>	<i>115000</i>
<i>Office assistant</i>	<i>25000</i>
<i>Supervisor</i>	<i>19000</i>
<i>Guard</i>	<i>9800</i>
<i>Peon</i>	<i>8000</i>
<i>Office rent</i>	<i>50000</i>
<i>Administration</i>	<i>60000</i>
<i>Office supplies</i>	<i>40000</i>

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**Exhibit 5: Cost of components in Pakistan Rupees**

<b>Components used in construction</b>	<b>Cost of Components per square ft. (Rs)</b>
<b>Main materials</b>	
<i>Bricks</i>	<i>220</i>
<i>Crush</i>	<i>60</i>
<i>Cement</i>	<i>175</i>
<i>Steel</i>	<i>175</i>
<i>Sand</i>	<i>30</i>
<b>Other items</b>	
<i>Electric items</i>	<i>20</i>
<i>Plumbing items</i>	<i>45</i>
<i>Earth filling</i>	<i>26</i>
<i>Brick tile</i>	<i>10</i>
<i>Brick Ballast</i>	<i>13</i>
<i>AC Pipe</i>	<i>9</i>
<i>Bitumen</i>	<i>4</i>

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<i>Polythene Sheet</i>	3
<i>Mud</i>	3
<i>Chip Aggregate</i>	4
<i>Taxes</i>	5
<i>Electricity bills</i>	4
<i>Boring</i>	4
<i>Ant termite</i>	4
<i>Random.</i>	10
<b>Labor</b>	
<i>Labor contractor</i>	260
<i>Steel Fixer</i>	10
<i>Plumbing</i>	15
<i>Electric</i>	15

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